

PublisherInfo		
PublisherName	:	BioMed Central
PublisherLocation	:	London
PublisherImprintName	:	BioMed Central

## Filamentous forms go foraging

ArticleInfo		
ArticleID	:	4675
ArticleDOI	:	10.1186/gb-spotlight-20030110-01
ArticleCitationID	:	spotlight-20030110-01
ArticleSequenceNumber	:	27
ArticleCategory	:	Research news
ArticleFirstPage	:	1
ArticleLastPage	:	2
ArticleHistory	:	RegistrationDate : 2003-1-10 OnlineDate : 2003-1-10
ArticleCopyright	:	BioMed Central Ltd2003
ArticleGrants	:	
ArticleContext	:	130594411

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When nutrients become limiting, single-celled budding yeast can differentiate into **invasive filamentous forms** that search for carbon and nitrogen sources. The transcription factor Ste12 is important for this response. In the January 9 *Nature* Nelson *et al.* provide mechanistic insights into the regulation of filamentous growth in *Saccharomyces cerevisiae* (*Nature* 2003, **421**:187-190). Yeast mutants lacking the cyclin-dependent kinase Srb10 (also called Cdk8) form pseudohyphae, in a process that requires Ste12. Srb10 complexes can phosphorylate Ste12 directly (at Ser261 and Ser451 residues), within its activation domain; this phosphorylation decreases Ste12 stability and inhibits pseudohyphal growth. Nitrogen limitation reduces Srb10 levels, leading to the accumulation of unphosphorylated, stable Ste12 protein. The authors note that it will be interesting to identify targets of Cdk8 in mammalian cells.

## References

1. Cell cycle control of yeast filamentous growth.
2. *Nature*, [<http://www.nature.com>]